SOLADIN

700 WEB / 1000 WEB / 1500 WEB

GRID CONNECTED SOLAR INVERTER

CE

UK | USERS AND INSTALLATION MANUAL

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IT : DOWNLOAD FROM WWW.MASTERVOLTSOLAR.COM/SOLADINWEB

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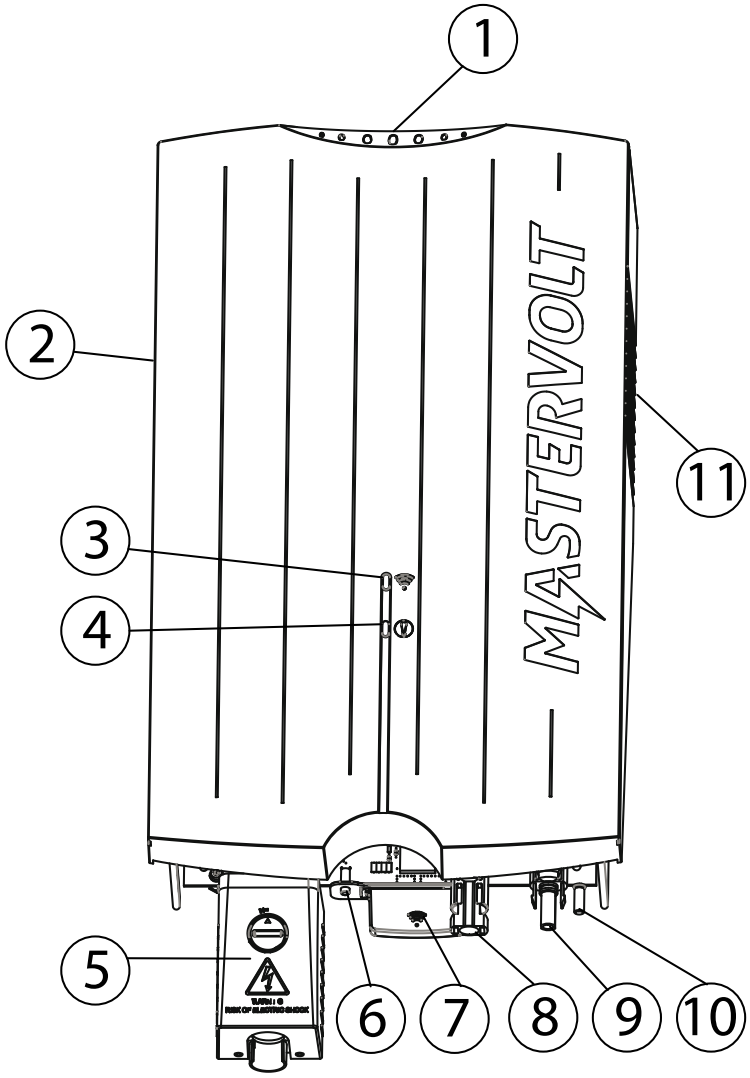

1. Power LEDs (Section 6.4)
2. Cooling fan
3. WIFI LED (Section 6.4)
4. Status LED (Section 6.4)
5. AC connection compartment (Chapter 5)
6. WIFI connection button (Section 6.4)
7. WIFI antenna
8. DC plus input (Chapter 5)
9. DC minus input (Chapter 5)
10. Ground screw (Chapter 5)
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1 GENERAL INFORMATION

1.1 PRODUCT DESCRIPTION

The Soladin 700 Web, 1000 Web and 1500 Web further referred to as "Soladin" or "Soladin Web" are grid connected solar inverters. This inverter type is used to convert photovoltaic power and feed this into the grid. The Soladin Web is not suitable for stand-alone use (i.e. use without utility grid).

1.2 USE OF THIS MANUAL

This manual serves as a guideline for the safe and effective use and installation of the Soladin:

- For the installer this manual gives directions for the installation, operation and commissioning.
- For the end user, this manual gives directions for the operation, maintenance and possible correction of minor malfunctions of this inverter.
- Every person who works with the apparatus should be familiar with the contents of this manual, and must carefully follow the instructions contained herein.
- Store the manual in an accessible place.

1.3 VALIDITY OF THIS MANUAL

This manual is valid for the following models:

Part number	Model
130000700	Soladin 700 Web
130001000	Soladin 1000 Web
130001500	Soladin 1500 Web

All the specifications, provisions and instructions contained in this manual apply solely to the Mastervolt-delivered standard version of this inverter.

1.4 SCOPE OF WARRANTY

Mastervolt assures the product warranty of the Soladin Web during five years after your purchase, on the condition that all instructions and warnings given in this manual are taken into account during installation and operation.
Among other things, this means that installation is carried out by a qualified electrician, that installation and maintenance are executed according to the stated instructions and correct working sequence, and that no changes or repairs may have been performed on the Soladin other than by Mastervolt.
The warranty is limited to the costs of repair and/or replacement of the product by Mastervolt only.
Costs for installation labour or shipping of the defective parts are not covered by this warranty.
For making an appeal on warranty you can contact your supplier directly, stating your complaint, application, date of purchase and part number / serial number.

1.5 LIABILITY

Mastervolt accepts no liability for:

- consequential damage due to use of the Soladin Web;
- possible errors in the manuals and the results thereof.

1.6 CHANGES TO THE SOLADIN

Changes to the Soladin Web inverter are not allowed.
Changes to the Soladin Web software/ firmware, except for the settings made available to the user or installer, are not allowed.

1.7 IDENTIFICATION LABEL

Figure 1-1

The identification label is positioned at the left side of the Soladin. The scan code has no use for you.

Read this manual before installation and use,

This product has been declared conform the EC directives and standards.

CAUTION!
Never remove the identification label.

2 SAFETY GUIDELINES AND WARNINGS

2.1 WARNINGS AND SYMBOLS

Safety instructions and warnings are marked in this manual by the following pictograms:

A procedure, circumstance, etc which deserves extra attention.

CAUTION!
Special information, commands and prohibitions in order to prevent damage.

WARNING
A WARNING refers to possible injury to the user or installer or significant material damage to the Soladin if the installer / user does not (carefully) follow the stated procedures.

2.2 USE FOR INTENDED PURPOSE

The Soladin Web is constructed as per the applicable safety-technical guidelines. Use the Soladin Web inverter only in installations that meet the following qualifications:

- the electrical installation must meet the applicable regulations and standards (must be carried out correctly) and must be in a good condition;
- according to the technical specifications.

WARNING
Never use the Soladin Web in situations where there is danger of gas or dust explosion or potentially flammable products!

Use of the inverter other than as mentioned under section 2.2 is considered to be conflicting with the intended purpose. In such cases, Mastervolt will not accept liability for any damage or injury caused by the functioning or malfunctioning of the inverter.

2.3 INSTALLATION, MAINTENANCE, REPAIR

WARNING
As dangerous voltages exist, only allow installation, maintenance and repair of the Soladin Web to be carried out by qualified electricians.

Connections and safety features must be executed according to the locally applicable regulations.
In case of decommissioning and/or demounting follow the instructions as stated in this manual. If repairs or replacements are required, only use original Mastervolt spare parts. Make sure two persons are present when working on the installation, at least until the installation has been de-energized and verified by a suitable metering instrument.

2.4 WARNING OF SPECIAL DANGERS

Two primary energy sources are present:
- solar panels (DC)
- utility grid (AC).

Switch off both sources before starting any work on the installation. Block the switching device against unintentional reconnection. Verify the de-energizing of both DC and AC connections using a suitable metering instrument.

The voltages present at the grid and solar side of the Soladin are not safe to touch.

WARNING
Life danger caused by high electric voltages present at the connectors after disconnecting DC and AC. After 1 minute the connectors are voltage free.

3 HOW IT WORKS

The Soladin Web is a grid connected photovoltaic power inverter. It converts the high voltage DC power coming from the photovoltaïc (PV) panels into AC power. The AC power is fed back into the public utility grid, see figure 3-1.

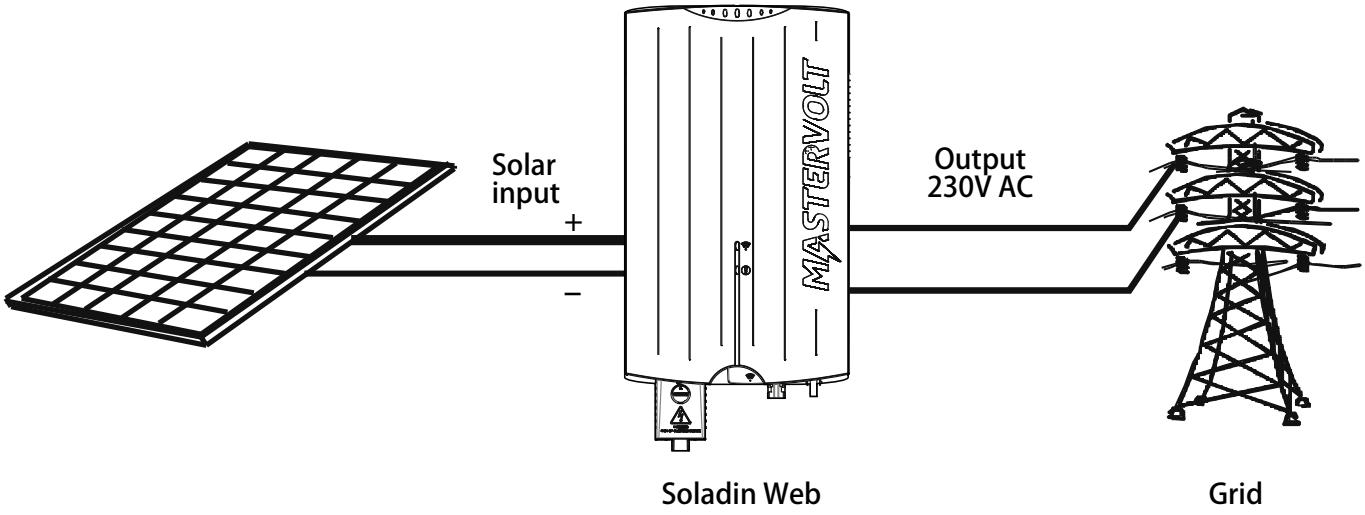


Figure 3-1: Schematic example of the Soladin in a PV plant

3.1 WORKING PRINCIPLE OF THE SOLADIN

PhotoVoltaïc (PV) modules convert light into DC power. A series of PV modules is called a string. The string must be connected to the solar input of the inverter. The PV string connected to the Soladin DC input is operated at its optimum voltage for an optimal yield (Maximum Power Point tracking). To reduce cable losses, PV modules are connected in series: a so-called "string". A plane of PV modules is called a PV array and consists of multiple strings of the same length, being connected in parallel.

3.2 GRID CONNECTED INVERTER

See figure 3-1.
The Soladin Web main task is to convert DC power produced by the PV modules into AC power and to feed it back into the public utility grid.

3.3 ISOLATED INVERTER

The Soladin Web is an isolated inverter. This isolated inverter has a High Frequency (HF) transformer inside which provides galvanic isolation between the DC (solar) and AC (grid) side. The Soladin is equipped with Isolation resistance detection: it monitors PV array isolation resistance.

3.4 GRID INTERFACE

The DC PV input is inverted to an AC output: 230V AC. For the PV input operating voltage range refer to the specifications. Selection of country settings is mandatory for use of the Soladin. Anti- islanding is provided according to national standards.
The Soladin Web is not suitable to be operated in stand-alone mode (independently from the utility grid).
The grid interface contains numerous safety mechanisms.

- Output relay to isolate the inverter form the grid.
- DC injection: Monitors DC current injection into the grid.
- Redundant grid voltage- and frequency monitoring
- Anti islanding protection: loss of utility detection

3.5 COMMUNICATION

The Soladin Web configuration is communicated with your display via Wi-Fi. If you opt for online monitoring, the Soladin Web communicates with your internet router via Wi-Fi as well.

4 BEFORE YOU START

4.1 UNPACKING

In addition to the Soladin the delivery includes:

- A mounting bracket to mount the Soladin to a wall
- This Quick Install Guide
- AC connection module.

After unpacking, check the contents for possible damage. Do not use the product if it is damaged. If in doubt, contact your supplier.

4.2 THINGS YOU NEED FOR INSTALLATION

Make sure you have all further parts to install the Soladin:

- 4 screws max 4,5 mm (with plugs) to mount the Soladin to the wall, suitable to carry its weight.
- Wifi access point router and associated password
- Wi-Fi display (smart phone, tablet or note book)
- Flat 1x3.5 mm bled screwdriver to open the AC connector
- AC cable or PVC tube to fit into the AC connector.

4.3 INSTALLATION ENVIRONMENT

- Ambient temperature: -20 ... 60°C; (power derating above 45°C).
- No objects must be located within a distance of 30 cm around the Soladin.
- Allow sufficient ventilation to prevent build up of hot air.
- Keep at least 50 cm in between the inverters when multiple Soladins are installed next to each other. If this is not possible, adequate measures must be taken to avoid one inverter heating up the other.
- If the Soladin is installed in the immediate vicinity of living areas, take into account that the Soladin can produce a slight noise level when operating.
- Mount the Soladin vertically on a solid wall.
- Mount the Soladin on a maximum 2000 m altitude.

See the next illustrations for more instructions.

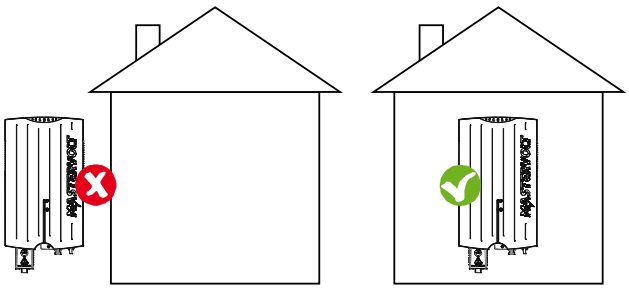


Figure 4-1: The Soladin is allowed to be installed in indoor environments only.

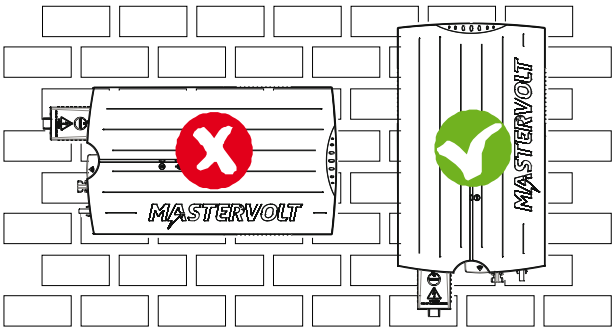


Figure 4-2: Mount the Soladin vertically to a solid wall. A light weight wall may lead to resonance and is dissuaded.

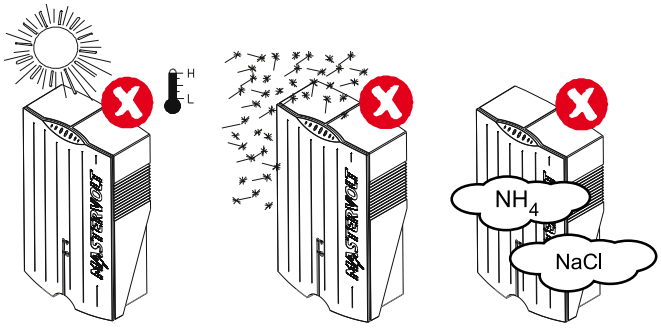


Figure 4-3

Do not expose the Soladin to direct sunlight or other heat sources.
Do not expose the Soladin to excessive dust.
Do not expose the Soladin to aggressive environments, ammonia or salt.

When multiple Soladins are installed either side by side or vertically above each other, keep at least 50 cm horizontal and vertical clearance between Soladins. This will avoid one inverter heating up the other.

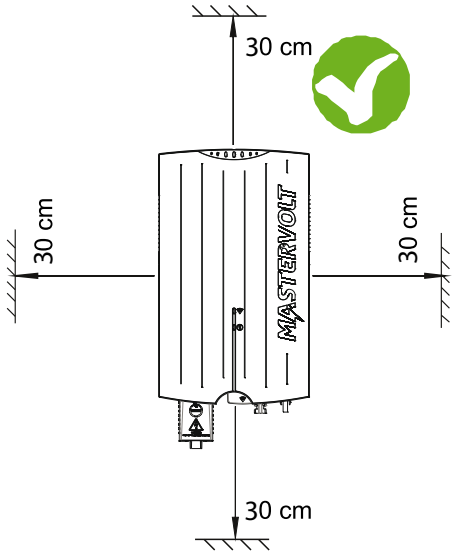


Figure 4-4: Keep 30 cm clearance around the Soladin

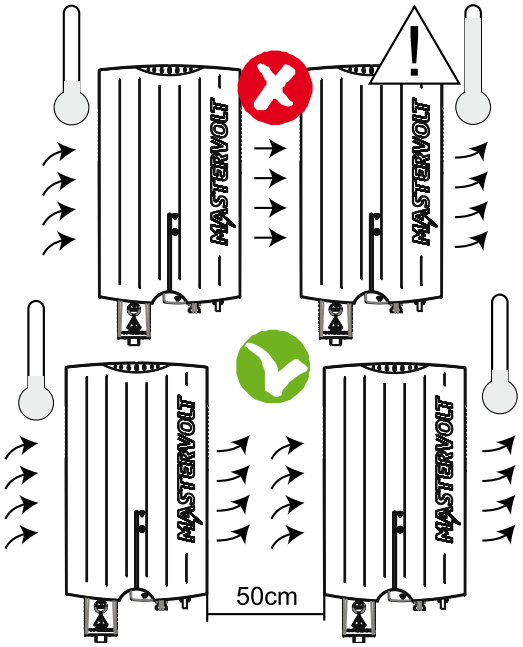


Figure 4-5: keep 50 cm between two Soladins

4.4 GENERAL SAFETY AND INSTALLATION PRECAUTIONS

WARNING
Be sure that all wiring is disconnected from any power source during the entire installation.

CAUTION!
- Short circuiting or reversing DC polarity may lead to damage to the Soladin, the cabling and/or the terminal connections.
- Follow all steps of the installation instructions in order of succession as described.

CAUTION!
When the PV array is exposed to light, it supplies a DC voltage to the solar inverter!

4.5 COUNTRY SUITABILITY

European countries maintain different regulations with regard to the grid interface of solar inverters. Because of these different regulations the Soladin must be configured at first installation.

4.6 AC CONNECTION COMPARTMENT

The Soladin Web inverter features an AC connection compartment with a strain relief to fit for a pvc tube or AC cables of different diameters. This strain relief can be turned upside down to accomodate smaller diameter cables. The AC terminal is suitable for conductor diameters up to 4 mm2. The AC wiring has to be led through the cable gland parts then connected according to figure 4-6.

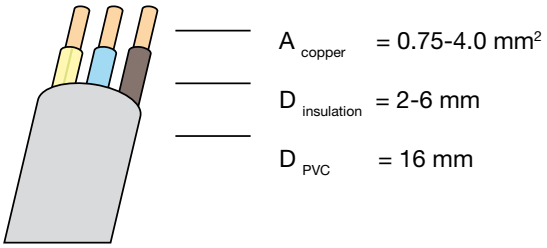


Figure 4-6: Cable sizes in AC connector

Length	Soladin model		
	700 Web	1000 Web	1500 Web
<10m	1.5	1.5	1.5
10-20m	1.5	1.5	2.5
20-30m	1.5	2.5	4

Table 4-1: Recommended AC cable sizes in mm²

4.7 SPECIFICATIONS OF THE PV INSTALLATION

Never connect voltages higher than specified to the inverter, as this will cause permanent damage to the inverter.

The inverter will automatically limit the input current and power to its specified rating. Excess power will not be converted.

Use of Amphenol Helios H4 connectors is mandatory!

The table below shows the recommended DC cable cross sections dependent on the cable lengths.

Length	Cross section
<10m	2.5 mm2
10-20m	4 mm2
20-30m	6 mm2

Table 4-2: Recommended DC cable sizes

4.8 LIGHTNING PROTECTION

In a solar installation, precautions must be taken to avoid damage from surges induced by lightning. The Soladin inverter is equipped with class III (micro) protection.

4.9 WI-FI ROUTER

Please bear in mind you need a Wi-Fi compatible router to be able to use IntelliWeb.

5 INSTALLATION

5.1 INSTALLATION STEP BY STEP

CAUTION!
Read chapters 2 and 3 prior to installation.

1 Click the AC connection module onto the inverter and mark the position of the mounting spots using the bracket.

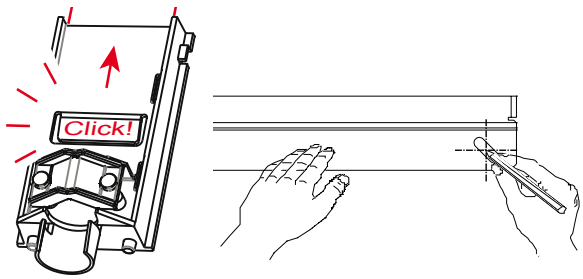


Figure 5-1

2 Fix the mounting bracket to the wall.

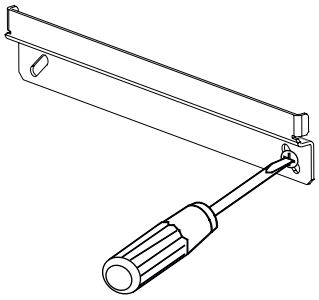


Figure 5-2

3 Place the Soladin over the mounting bracket and then move it downwards until it is held by the mounting bracket.

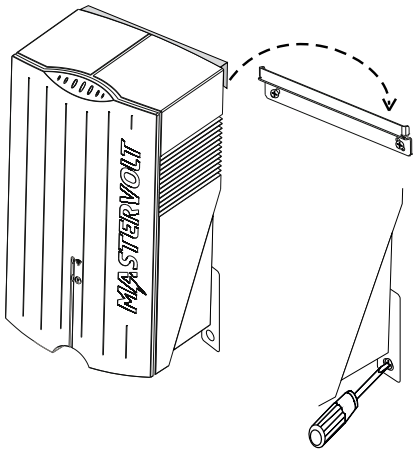


Figure 5-3

4 Connect the AC wiring to the AC terminal. Figure 5-4 shows the PE / N / L terminal. Tighten the strain relief. Make sure the cable is fixed firmly.

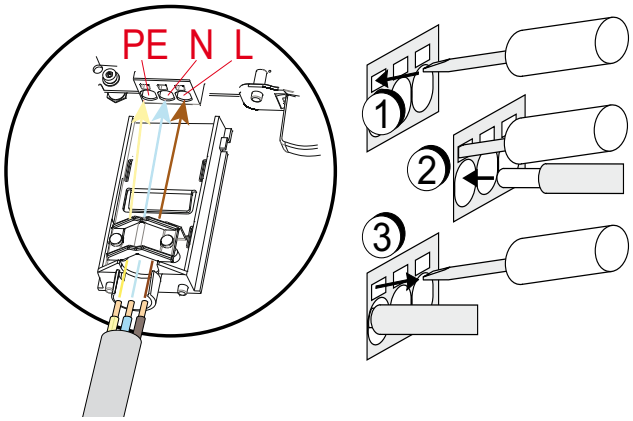


Figure 5-4: Connect the AC cables

5 Close the AC connection compartment by clicking the cover in place, see figure 5-5.

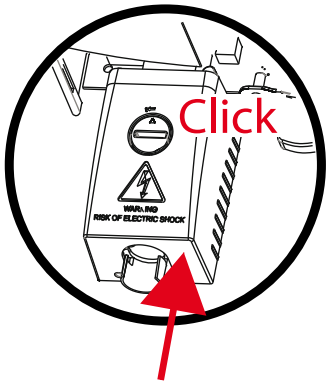


Figure 5-5: Close the AC connection module

6 If an additional Protective Earth or equipotential connection is required in your country, use of the ground screw is an option.
Refer to front page overview item 10.

7 Switch On AC

You are ready for commissioning now. You do this by connecting DC and finishing the inverter setup.

8 Connect the DC cables and if applicable, switch On the DC switch. If sunlight is available, the Soladin will switch On but it does not start inverting.

The Soladin only starts inverting after you completed the setup! Refer to chapter 6.

5.2 INSTALLATION OPTIONS

This section explains optional items that may be required for local regulations or personal wishes.

5.2.1 Functional grounding

During normal operation, the Soladin Web will balance the DC voltage on its connectors around the PE potential. This means the negative DC terminal will operate on a negative potential with respect to PE and vice versa for the positive DC terminal. Certain PV module types cannot withstand this balanced operation and may suffer accelerated degradation in case the array is left floating. In such a case, one of the DC connectors of the PV array must be grounded. This is called Functional Grounding. In case of functional grounding, the Soladin Isolation detection has to be switched off to prevent unneccessary alarms.
For more information, refer to www.mastervoltsolar.com.

5.2.2 Using an RCD

If local requirements prescribe the use of an RCD, according to IEC 60364-7: 712.413.1.1.1.2 (and local norms derived upon this) the Soladin Web is a "PV power supply that has at least a simple separation between AC side and DC side".

5.2.3 External DC Switch

Optionally the Soladin can be equipped with an external DC switch which is used to disconnect the photovoltaic modules from the inverter, as may be required in buildings by the international standard IEC60364-7-712. It is available at Mastervolt.

5.2.4 Connection to a 230V 3_Phase grid

If the public grid is in a three phase 230V Delta configuration, the Soladin must be connected between two phases.

5.2.5 Load disconnection

Install a separate circuit breaker for each Soladin to ensure that it can be disonnected safely when under load. 16A is the maximum permitted fuse protection.

5.2.6 Changing country setting and advanced settings

For changing your country setting after setup and for advanced settings, you need an installer password. This is available at Mastervolt.

6 COMMISSIONING SET UP VIA WI-FI

6.1 COUNTRY CODE SETTING

At first commissioning you have to set the country code. Only with the country code set, the Soladin starts inverting. To configure the Soladin inverter, you will need a Wi-Fi display device like a notebook, tablet or Wi-Fi phone. Follow next steps.

As the Soladin switches off in dark, settings can be performed during daylight only.

As the country has not been selected yet, the Soladin will send out a wireless network as accesspoint automatically. After 30 minutes, this network will be switched off automatically.

1 **Check if the Wi-Fi led is blinking 1 time to indicate it is sending its network. Otherwise push the WLAN button till the Wi-Fi LED blinks slowly.**

2 **Using your notebook, tablet or phone, connect to a wireless network called: mastervolt-soladin-XXXX XXXX resembles the last four digits of the serial number.**

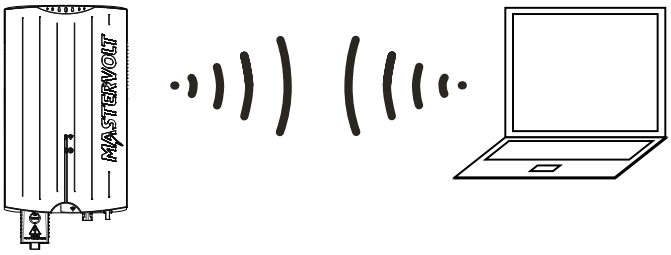


Figure 6-1: Soladin as Access point mode

3 **When connected, open your webbrowser and type in the address bar http://10.0.0.1 The Soladin internal page will show up, see figure 6-2.**

4 **Select the country of installation using your Wi-Fi display connected to the Soladin, see figure 6-2. After first commissioning, this feature is locked.**

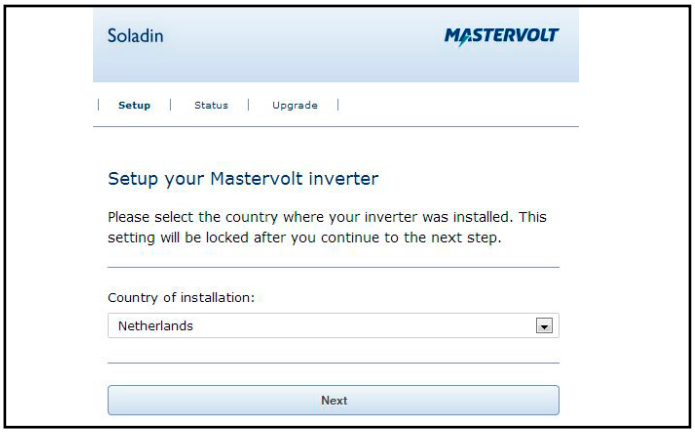


Figure 6-2: Soladin internal page country setting

5 **Select if you wish to setup your inverter for internet (recommended).**

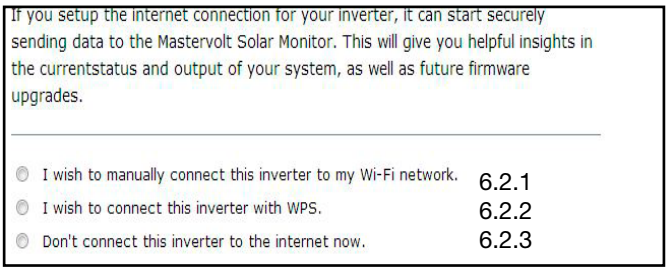


Figure 6-3: Setting up the internet connection

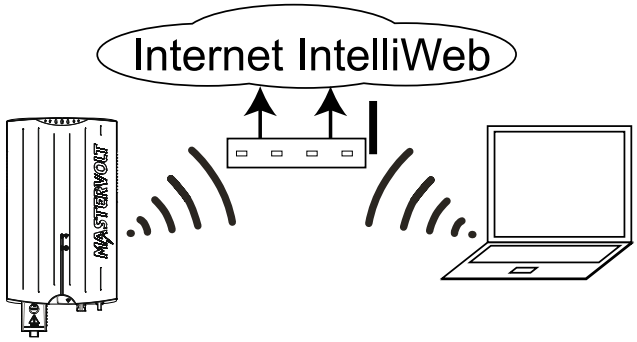


Figure 6-4: Internet mode

After completion of the setup, the Soladin Web will start inverting power.

6.2 REGISTER TO INTELLIWEB

For registration to IntelliWeb, visit http://intelliweb.mastervolt.com.

6.2.1 Standard connection to Wi-Fi network

Connect to the internet router by selecting the network SSID and entering the network key. The term "SSID" refers to the name used to indentify the specific internet router. "Network key" refers to the pass word or pass phrase required to prevent unauthorized access to communication. Follow the instructions on your Wi-Fi display.
Press "Save and connect" to complete the setup and connect the inverter to the internet. The Soladin Web

- disconnects from Access Point Mode,
- connects to the internet router, see figure 6-4,
- redirects you to IntelliWeb automatically.

Press "Save" if advanced settings have to be applied before finishing the setup.

6.2.2 WPS connection to Wi-Fi network

Make sure your internet router supports WPS before selecting this option.
This way you do not have to fill in the network key. Pressing the WPS button is sufficient.

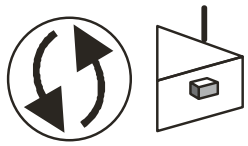


Figure 6-5: Make sure your internet router supports WPS

6.2.3 Do not connect the Soladin to the internet

Select this option when no internet access is available. Press "close connection" in the screen to complete the setup. At a later stage, connection to the internet can be made by restarting the setup procedure.

6.3 DE-COMMISSIONING

If it is necessary to de-commission the Soladin, follow the instructions in order of succession as described below:
1. Cut off the grid voltage by switching off the AC distribution switch in the meter cupboard.
2. Disconnect the Amphenol connectors from the Soladin Web.
3. Disconnect the AC cable from the Soladin. Now the Soladin Web can be demounted in a safe way.

6.4 LED TABLE

The Soladin is equipped with a WLAN (Wi-Fi) button, see Overview position 6. This button enables three Wi-Fi modes subsequently in this order:
1. Off (no Wi-Fi network)
2. Soladin as Access Point mode (SAP mode), for connection between the inverter and the Wi-Fi display
3. Internet mode (for connection with IntelliWeb using the internet router).

These modes can be checked by means of the Wi-Fi LED indication (second column).

LED	Indication of the LED		Meaning	Wi-Fi mode (toggle button)
Status LED	On		Grid fault	
	blinking 6 times	●●●●●● ●●●●●●	Hardware error	
	blinking 5 times	●●●●● ●●●●●	Solar voltage too high	
	blinking 4 times	●●●● ●●●●	Temperature too high	
	blinking 3 times	●●● ●●●	No country selected	
	blinking 2 times	●● ●●	Isolation fault	
	blinking 1 time	● ●	Solar voltage low	
Power LED	Slow Blinking		Starting	
	Fading (slow=low	< > < >		
	power, fast=high)	<> <>	Normal operation	
Wi-Fi LED	On		Connected with IntelliWeb	Internet mode (IM)
	blinking 4 times	●●●● ●●●●	Connecting with IntelliWeb	Internet mode (IM)
	blinking 3 times	●●● ●●●	Getting IP address from wireless router	Internet mode (IM)
	blinking 2 times	●● ●●	Connecting to router for IntelliWeb	Internet mode (IM)
	blinking 1 time	● ●	Inverter setup	Access point (SAP)
	Off		Wireless network disabled	Off
Status + Power	Fast blinking	● ●	Software update in progress	
Status + Power + Wi-Fi	Off		Insufficient irradiation	

Table 6-1: Wi-Fi button and LED indications

6.5 MANUAL REGISTRATION FOR INTELLIWEB

If you wish to register for IntelliWeb at a later moment, you need to start the Soladin network manually. Follow the steps in section 6.1 to configure the Soladin for your Wi-Fi display and register to IntelliWeb.

7 ADVANCED SETTINGS

The Soladin Web inverter is equipped with a library of grid interface settings, enabling easy adaptation to country specific grid codes. Where required, the inverter may contribute to the static grid support. All country specific settings are automatically set when the country is selected during the commissioning. However, adjustment to the standard settings may be necessary. Only the installer is authorized to make changes.
The following parameters can be adjusted:

- Country selection
- Voltage- and frequency limits, Insulation detection and anti-islanding protection
- Maximum inverter power (Power limiting to 70% of array capacity according to EEG2012)

7.1 ACCESSING INSTALLER SETTINGS

Connect your Wi-Fi display to the Soladin in access point mode according to table 6-1.
- Click on "Advanced settings" in the bottom left part of the screen and enter your personal "Installer" password.
An "installer password" must be obtained from Mastervolt Technical Support.
- If the password is correct, the Country settings menu will be displayed.

7.2 COUNTRY SETTING MENU

During first commissioning, the country is selected. This automatically stores the correct grid interface parameters in the Soladin Web. The Country Settings menu allows to change the country of installation, if necessary. Choose the correct country and press "Update". This will load the correct settings for the country and store them in the Soladin Web.

Changing the country during on-grid operation may lead to a disconnection and reconnection to the grid.

Country setting "Custom" copies current settings to "Custom" and allows to change single settings, independent of the country installed.

Insulation detection can be switched off when functional grounding is applied in the installation.

7.3 OPTIONS MENU

In the options menu the Shadow tracker can be enabled and the maximum power of the inverter can be set.
The Soladin features a shadow MPP tracker. It optimizes system performance when the solar array is shaded partially. The shadow MPP tracker function is standard disabled to prevent unnecessary losses in the Maximum Power Point Tracker.
Power limiting of the inverter may be required by law, for example, to 70% of array capacity according to EEG2012 in Germany. Check the box to enable the maximum power and fill in the maximum AC output power of the inverter.

8 TROUBLE SHOOTING TABLE

LED	Indication of the LED	Meaning	What to do
	On continuous	Grid fault	Check AC connection and AC circuit breaker
	blinking 6 times ●●●●●● ●●●●●●	Hardware error	Contact your Mastervolt supplier
	blinking 5 times ●●●●● ●●●●●	Solar voltage too high	Check the PV string length
	blinking 4 times ●●●● ●●●●	Temperature too high	Check the fan and free ventilation
	blinking 3 times ●●● ●●●	No country selected	Select the country in the configuration page
	blinking 2 times ●● ●●	PV insulation ground fault	Take care of PV array insulation
	blinking 1 time ● ●	Solar voltage low	During dusk and dawn this is normal. If it happens during the day: check that no shades disturb irradiation of your PV array
Wi-Fi LED	stays blinking 4 times ●●●● ●●●●	The Soladin is connected to your home network, but is not able to connect to our servers.	Check your home internet connection. Try unplugging and replugging your router. Check if you can reach http://intelliweb.mastervolt.com/ If you can reach other sites, but not IntelliWeb, our service might be temporarily disrupted.
	stays blinking 3 times ●●● ●●●	The Soladin cannot obtain an IP address which it needs to access your local network.	Check if your router is configured as a DHCP server, verify and correct your router settings if necessary. There may be a problem within the router, replug your router's power cord.
	stays blinking 2 times ●● ●●	The Soladin cannot connect to the Wi-Fi network	Is the home router plugged in and switched on? Check the cables and plug them in if needed. Is the password correct? Use the Soladin setup to verify and, if needed, correct the password. Is the signal strength ok? Go to the location where your Soladin is installed and check if you can connect to your home network with a smartphone, tablet or laptop.
	stays blinking 1 time ● ●	Setup modus	This is a normal situation. The Wi-Fi LED stays blinking during 30 minutes or shorter if the setup was finished earlier.
The Wi-Fi connection with the router is established but there is no internet connection.		Your internet server or the internet cable connection may be down.	Check your server and internet cable.
Because of a new router or otherwise you want to change the Wi-Fi settings.			Refer to section 6.1 for instructions.
You cannot find the internet router home network in the list.		The router may be installed too far from the Soladin or it is defect.	Check the position of your router and if it is working correctly.
There is no Wi-Fi connection between the Soladin and your phone.			Check if your phone is working correctly and check its password.

9 TECHNICAL DATA

9.1 TECHNICAL SPECIFICATIONS

	Soladin 700 Web	Soladin 1000 Web	Soladin 1500 Web
GENERAL			
Part number	130000700	130001000	130001500
Operating temp.	Ambient temperature -20°C to 60°C (Full power up to 45 °C ambient)		
Enclosure	Aluminium enclosure, plastic front		
Protection degree	IP21 for indoor use		
Relative humidity	<90% non condensing		
Safety class	Class I		
Inverter technology	HF transformer		
Cooling	Intellicool		
Weight	6 kg	7kg	8kg
Dimensions, hxwxd	tbd	478x241x128 mm	478x241x128 mm
SOLAR INPUT (DC)			
PV power range	500-900 Wp	850 - 1350 Wp	1300 - 2000 Wp
Start up power	<5 W	<5 W	<5 W
Operating voltage	50 - 200 V	70 - 290 V	80 - 375
MPPT voltage range	65 - 160 V	100 - 230 V	145 - 300 V
Nominal voltage	140 V	205 V	220 V
Absolute maximum voltage	200 V	290 V	375 V
Overvoltage category	OVC2	OVC2	OVC2
Number of inputs	1 MPP Tracker / 1 set of DC connectors		
Maximum input current	9 A	9 A	12 A
Maximum short circuit current	17 A	17 A	17 A
DC protection	Surge arresters class III according to IEC 61643-1		
GRID OUTPUT (AC)			
Voltage	230 Vac single phase +15% / -20%		
Overvoltage category	OVC3	OVC3	OVC3
Nominal Power	700 W	1000 W	1500 W
Maximum power	735 W	1050 W	1575 W
Maximum current	3.6 A	5.1 A	7.6 A
Maximum short circuit current	2.35 A rms for 3 periods	2.35 A rms for 3 periods	2.35 A rms for 3 periods
Frequency	50 / 60 Hz		
Nominal Power factor	> 0.99		
Standby Power consumption	< 0.5 W		
EU efficiency	94.2 %	94.4 %	94.6 %
Maximum efficiency	95.1 %	95.3 %	95.4 %
AC connector	0.75 – 4 mm2 spring cage terminal block		
REGULATIONS & DIRECTIVES			
CE conformity	Yes		
Approved for use in	UK, NL, DE, FR, ES, BE, DK, GR, AT, IE, BG, CZ		
National grid requirements	VDE0126-1-1; VDE-AR-N4105; CEI-021; RD1699; G83/1; C10/11		
COMMUNICATION & MONITORING			
Indicators	Status LED, Power LEDs and Wi-Fi LED		
Monitoring	Monitoring portal (access included)		
Communication	Wi-Fi		

9.2 SOLADIN WEB OUTLINE DRAWINGS

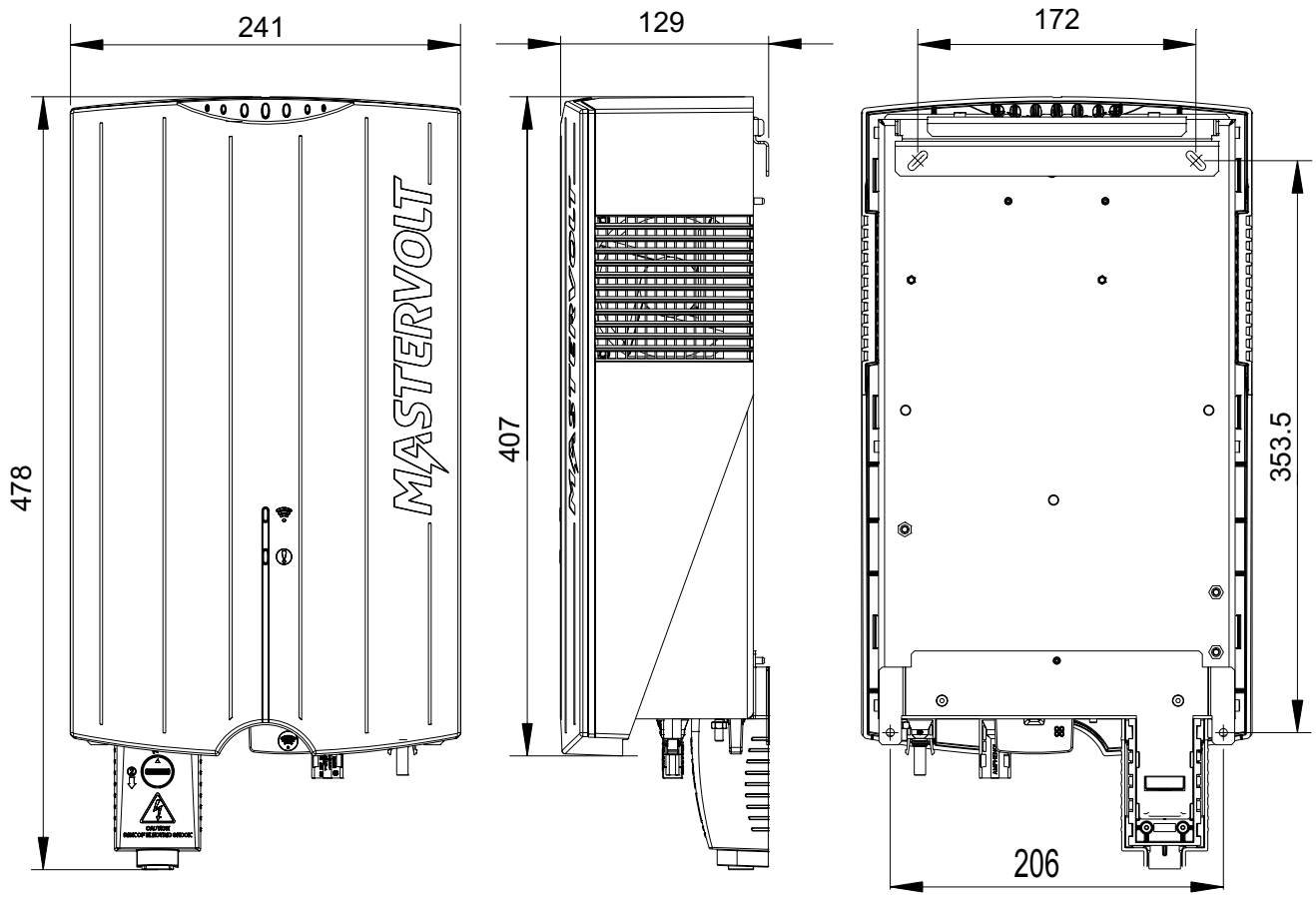


Figure 9-1 Dimensions in mm of the Soladin 1000 Web and 1500 Web

9.3 ORDERING INFORMATION

Part number	Description
130000700	Soladin 700 Web
130001000	Soladin 1000 Web
130001500	Soladin 1500 Web
130500640	Soladin Web DC Switch

10 CERTIFICATES

10.1 EC DECLARATION OF CONFORMITY

We,

Manufacturer	Mastervolt International B.V.
Address	Snijdersbergweg 93 1105 AN Amsterdam The Netherlands

Declare under our sole responsibility that the product:

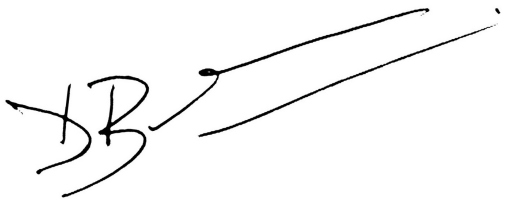
Article number	Product name
130000700	Soladin 700 Web
130001000	Soladin 1000 Web
130001500	Soladin 1500 Web

is in conformity with the provisions of the applicable directives:

2004/108/EC	EN 61000-3-2:2006 + A1:2009 + A2:2009 EN 61000-3-3:2008 EN 61000-6-1:2007 EN 61000-6-3:2007 + A1:2011
2006/95/EC	EN 60950-1:2006 + A11:2009 + A1:2010 1) 2) EN 62109-1:2010 EN 62109-2:2011
1999/5/EC	EN 301489-1 V1.8.1:2008-04 1) 2) EN 301489-17 V2.1.1:2009-05 1) 2) EN 300 328 V1.7.1:2006-10 1) 2) EN 50371:2002-03 1) 2)
2011/65/EU	

NOTE 1: Notified body involved: 0681
NOTE 2: Wireless module only

Amsterdam, 21-05-2013
MASTERVOLT INTERNATIONAL B.V.



Ing. D.R. Bassie
Product Manager Solar

10.2 VDE V 0126-1-1 UNBEDENKLICHKEITSBESCHEINIGUNG

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86842 Türkheim
Deutschland
+ 49 (0) 4074041-0
cps-tuerkheim@de.bureauveritas.com

Zertifizierungsstelle der BV CPS GmbH
Akkreditiert nach EN 45011 -
ISO / IEC Guide 65

Unbedenklichkeitsbescheinigung

Antragsteller:	**Mastervolt International BV** **Snijdersbergweg 93** **1105 AN AMSTERDAM ZO** **Niederlande**
Erzeugnis:	**Selbsttätige Schaltstelle zwischen einer netzparallelen Eigenerzeugungsanlage und dem öffentlichen Niederspannungsnetz**
Modell:	**Soladin 1000 WEB, Soladin 1500 WEB**

Bestimmungsgemäße Verwendung:

Selbsttätige Schaltstelle mit einhasiger Netzüberwachung gemäß DIN V VDE V 0126-1-1:2006-02 und DIN V VDE V 0126-1-1/A1:2012-02 für Photovoltaikanlagen mit einer einphasigen Paralleleinspeisung über Wechselrichter in das Netz der öffentlichen Versorgung. Die selbsttätige Schaltstelle ist integraler Bestandteil der oben angeführten trafolosen Wechselrichter. Diese dient als Ersatz für eine jederzeit dem Verteilungsnetzbetreiber (VNB) zugängliche Schaltstelle mit Trennfunktion.

Prüfgrundlagen:

DIN V VDE V 0126-1-1 (VDE V 0126-1-1):2006-02
Selbsttätige Schaltstelle zwischen einer netzparallelen Eigenerzeugungsanlage und dem öffentlichen Niederspannungsnetz

DIN V VDE V 0126-1-1/A1 (VDE V 0126-1-1/A1):2012-02
Selbsttätige Schaltstelle zwischen einer netzparallelen Eigenerzeugungsanlage und dem öffentlichen Niederspannunugsnetz; Änderung 1.

Ein repräsentatives Testmuster der oben genannten Erzeugnisse entspricht den zum Zeitpunkt der Ausstellung dieser Bescheinigung geltenden sicherheitstechnischen Anforderungen der aufgeführten Prüfgrundlagen für die bestimmungsgemäße Verwendung.

Bericht Nummer:	**13TH0069-VDE0126-1-1/A1**		
Zertifikat Nummer:	**U13-0495**		
Datum:	**2013-07-15**	**Gültig bis:**	**2016-07-15**

Zertifizierungsstelle

Dieter Zitzmann

DAkkS Deutsche Akkreditierungsstelle D-ZE-12024-01-01

QUALITY HEALTH SAFETY ENVIRONMENT SOCIAL ACCOUNTABILITY

10.3 KONFORMITÄTSNACHWEIS EIGENERZEUGUNGSEINHEIT

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cps-tuerkheim@de.bureauveritas.com

Zertifizierungsstelle der BV CPS GmbH
Akkreditiert nach EN 45011 -
ISO / IEC Guide 65

Konformitätsnachweis Eigenerzeugungseinheit

Hersteller / Antragsteller: **Mastervolt International BV**
Snijdersbergweg 93
1105 AN AMSTERDAM ZO
Niederlande

Typ Erzeugungseinheit:	**Netzgebundener Photovoltaikwechselrichter**	
Name der EZE:	**Soladin 1000 WEB**	**Soladin 1500 WEB**
Wirkleistung (Nennleistung bei Nennbedingungen):	**1000 VA**	**1500 VA**
Bemessungsspannung:	**230 V; N; PE**	

Firmwareversion: **1.16**

Netzanschlussregel: **VDE-AR-N 4105:2011-08 – Erzeugungsanlagen am Niederspannungsnetz**
Technische Mindestanforderungen für Anschluss und Parallelbetrieb von Erzeugungsanlagen am Niederspannungsnetz

Mitgeltende Normen / Richtlinien: **DIN VDE V 0124-100 (VDE V 0124-100): 2012-07 – Netzintegration von Erzeugungsanlagen – Niederspannung**
Prüfanforderungen an Erzeugungseinheiten vorgesehen zum Anschluss und Parallelbetrieb am Niederspannungsnetz

Die oben bezeichneten Eigenerzeugungseinheiten wurden nach der Prüfrichtlinie VDE 0124-100 geprüft und zertifiziert. Die in der Netzanschlussregel geforderten elektrischen Eigenschaften werden erfüllt:

- Nachweis zulässiger Netzrückwirkungen
- Nachweis des Symmetrieverhaltens von Drehstromumrichtereinheiten
- Nachweis des Verhaltens der Erzeugungseinheit am Netz

Das Zertifikat beinhaltet folgende Angaben:

- Technische Daten der Erzeugungseinheiten, der eingesetzten Hilfseinrichtungen und der verwendeten Softwareversion
- Schematischer Aufbau der Erzeugungseinheit
- Zusammengefasste Angaben zu den Eigenschaften der Erzeugungseinheit (Wirkungsweise)

BV Projektnummer: **13TH0069**

Zertifikatsnummer: **U13-0489**

Ausstellungsdatum: **2013-07-15** **Gültig bis:** **2016-07-14**

Zertifizierungsstelle

Dieter Zitzmann

(Eine auszugsweise Darstellung des Zertifikats bedarf der schriftlichen Genehmigung der BV CPS GmbH)

DAkkS Deutsche Akkreditierungsstelle D-ZE-12024-01-01

QUALITY HEALTH SAFETY ENVIRONMENT SOCIAL ACCOUNTABILITY

10.4 KONFORMITÄTSNACHWEIS NA-SCHUTZ

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Zertifizierungsstelle der BV CPS GmbH
Akkreditiert nach EN 45011 -
ISO / IEC Guide 65

Konformitätsnachweis NA-Schutz

Hersteller / Antragsteller: **Mastervolt International BV**
Snijdersbergweg 93
1105 AN AMSTERDAM ZO
Niederlande

Typ NA-Schutz:	**Integrierter NA-Schutz**
Zugeordnet zu Erzeugungseinheit Typ:	**Soladin 1000 WEB, Soladin 1500 WEB**

Firmwareversion: **1.16**

Netzanschlussregel: **VDE-AR-N 4105:2011-08 – Erzeugungsanlagen am Niederspannungsnetz**
Technische Mindestanforderungen für Anschluss und Parallelbetrieb von Erzeugungsanlagen am Niederspannungsnetz

Mitgeltende Normen / Richtlinien: **DIN VDE V 0124-100 (VDE V 0124-100): 2012-07 – Netzintegration von Erzeugungsanlagen – Niederspannung**
Prüfanforderungen an Erzeugungseinheiten vorgesehen zum Anschluss und Parallelbetrieb am Niederspannungsnetz

Der oben bezeichnete NA-Schutz wurde nach der Prüfrichtlinie VDE 0124-100 geprüft und zertifiziert. Die in der Netzanschlussregel geforderten elektrischen Eigenschaften werden erfüllt:

- Einstellwerte und die Abschaltzeiten
- Funktionstüchtige Wirkungskette „NA-Schutz-Kuppelschalter"
- Technische Anforderungen der Schalteinrichtung
- Aktive Inselnetzerkennung
- Einfehlersicherheit

Das Zertifikat beinhaltet folgende Angaben:

- Technische Daten des NA-Schutz und zugehörige EZE Typen
- Einstellwerte der Schutzfunktionen
- Auslösewerte der Schutzfunktionen

BV Projektnummer: **13TH0069**

Zertifikatsnummer: **U13-0490**

Ausstellungsdatum: **2013-07-15** **Gültig bis:** **2016-07-14**

Zertifizierungsstelle

Dieter Zitzmann

DAkkS Deutsche Akkreditierungsstelle D-ZE-12024-01-01

(Eine auszugsweise Darstellung des Zertifikats bedarf der schriftlichen Genehmigung der BV CPS GmbH)

QUALITY HEALTH SAFETY ENVIRONMENT SOCIAL ACCOUNTABILITY